IN THE CLAIMS:

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of the Claims:

1. (Currently amended) The present invention provides a method of strong decorrelation of signals which are input, the method including the steps of:-

   a) processing the input signals to determine delay and rotation parameters which implement at least one elementary paraunitary matrix and transform the input signals into output signals to obtain improvement in a measure of strong decorrelation;

   b) assessing the improvement in the measure of strong decorrelation, and

   c) if the improvement ~~it~~ is significant designating the output signals as input signals and iterating steps a) and ~~this step~~ b), and if the improvement is not significant designating the output signals as signals decorrelated in a wide sense.

2. (Currently amended) A method according to Claim 1 ~~in that~~ wherein the delay and rotation parameters which transform the input signals characterise a single elementary paraunitary matrix.

3. (Currently amended) A method according to Claim 2 ~~characterised in that it includes~~ including producing a paraunitary matrix by cumulatively multiplying successive elementary paraunitary matrices produced by iterating step a).

4. (Currently amended) A method according to Claim 2 ~~characterised in that~~ wherein the range of signal delay parameters is a set of discrete delay vectors, and the delay and rotation parameters are determined by generating a respective version of the input signals delayed by each delay vector in the set, and for each version finding rotation parameters which at least approach producing maximisation of output signals' strong decorrelation.

5. (Currently amended) A method according to Claim 4 ~~characterised in that~~ wherein the rotation parameters which at least approach producing maximisation of output signals'

strong decorrelation are determined using an algorithm for pointwise decorrelation of the kind used in instantaneous decorrelation.

6. (Currently amended) A method according to Claim 1 involving n input signals where n is an integer greater than 2, ~~characterised in that~~ wherein the range of signal delay parameters is a set of n-element delay vectors and the range of signal rotation parameters is a set of $n(n-1)/2$ angle parameters.

7. (Currently amended) A method according to Claim 1 involving n input signals where n is an integer greater than 2, ~~characterised in that~~ wherein step a) comprises determining delay and rotation parameters which implement at least one elementary paraunitary matrix providing for rotation of a pair of input signals and relative delay of the or as the case may be each other input signal.

8. (Currently amended) A method according to Claim 7 wherein the n input signals are associated with respective channels ~~characterised in that~~ wherein step a) has $n(n-1)/2$ successive stages each associated with at least one respective elementary paraunitary matrix and each providing for rotation of signals associated with a respective pair of channels and provision of relative delay associated with the or as the case may be each other channel, the first stage is arranged to process the input signals and the or as the case may be each subsequent stage is arranged to receive signals processed in the respective preceding stage.

9. (Currently amended) A method according to Claim 1 involving a set of n input signals where n is an integer greater than 2, ~~characterised in that it comprises~~ the method having the steps of:

   a) producing $n(n-1)/2$ replicas of the set of input signals,

   b) in each replica selecting a respective signal pair differing to that selected in other replicas, and

   c) the step of processing the input signals to determine delay and rotation parameters being carried out for each replica and comprising:

i) determining delay and rotation parameters which implement at least one elementary paraunitary matrix providing for rotation of the respective selected signal pair only, and

ii) determining which replica when transformed by the associated at least one elementary paraunitary matrix gives rise to transformed signals corresponding to improvement in a measure of decorrelation by at least a major part of a maximum extent obtainable over the replicas and designating these transformed signals as output signals.

10. (Currently amended) A method according to Claim 1 ~~characterised in that~~ wherein the at least one elementary paraunitary matrix implements at least one leading delay, rotation and terminal delay

11. (Currently amended) Computer apparatus for strong decorrelation of signals, the apparatus being programmed for reception of input signals~~, characterised in that the apparatus is also~~ and also being programmed:-

a) to process the input signals to determine delay and rotation parameters which implement at least one elementary paraunitary matrix and transform the input signals into output signals to obtain improvement in a measure of strong decorrelation;

b) to assess the improvement in the measure of strong decorrelation, and if ~~it~~ the improvement is significant to designate the output signals as input signals and iterate a) and b), and if the improvement is not significant to designate the output signals as signals decorrelated in a wide sense.

12. (Currently amended) Apparatus according to Claim 11 ~~characterised in that~~ wherein the delay and rotation parameters which transform the input signals characterise a single elementary paraunitary matrix.

13. (Currently amended) Apparatus according to Claim 12 ~~characterised in that the computer equipment is~~ programmed to produce a paraunitary matrix by cumulatively multiplying

successive elementary paraunitary matrices produced in iterative processing.

14. (Currently amended) Apparatus according to Claim 12 ~~characterised in that~~ wherein the range of signal delay parameters is a set of discrete delay vectors, and the computer apparatus is programmed to determine the delay and rotation parameters by generating a respective version of the input signals delayed by each delay vector in the set, and to find for each version rotation parameters which at least approach producing maximisation of output signals' strong decorrelation.

15. (Currently amended) Apparatus according to Claim 14 ~~characterised in that the computer equipment is~~ programmed to determine the rotation parameters which at least approach producing maximisation of output signals' strong decorrelation using a pointwise decorrelation algorithm.

16. (Currently amended) Apparatus according to Claim 11 programmed to receive n input signals where n is an integer greater than 2, ~~characterised in that the apparatus is also and~~ also programmed to determine delay and rotation parameters which implement at least one elementary paraunitary matrix providing for rotation of a pair of input signals and relative delay of the or as the case may be each other input signal.

17. (Currently amended) Apparatus according to Claim 16 programmed to define respective channels for the n input signals ~~characterised in that the apparatus is also programmed and~~ to process the input signals in $n(n-1)/2$ successive stages each associated with at least one respective elementary paraunitary matrix and each providing for rotation of signals associated with a respective pair of channels and provision of relative delay associated with the or as the case may be each other channel, the first such stage involving processing the input signals and the or as the case may be each subsequent stage involving processing signals resulting from processing in the respective preceding stage.

18. (Currently amended) Apparatus according to Claim 11 programmed to receive a set of n

input signals where n is an integer greater than 2, ~~characterised in that the apparatus is also~~ and also programmed to:

a) produce n(n – 1)/2 replicas of the set of input signals,

b) in each replica select a respective signal pair differing to that selected in other replicas, and

c) implement processing of the input signals to determine delay and rotation parameters for each replica as input signals and determine:

i) delay and rotation parameters which implement at least one elementary paraunitary matrix providing for rotation of the respective selected signal pair only, and

ii) which replica when transformed by the associated at least one elementary paraunitary matrix gives rise to transformed signals corresponding to improvement in a measure of strong decorrelation by at least a major part of a maximum extent obtainable over the replicas and designate these transformed signals as output signals.

19. (Currently amended) Apparatus according to Claim 11 ~~characterised in that~~ wherein the at least one elementary paraunitary matrix implements at least one leading delay, rotation and terminal delay.

20. (Currently amended) A computer programme having instructions for implementing strong decorrelation of signals input to computer apparatus, ~~characterised in that it has instructions~~ the computer programme having instructions for controlling the computer apparatus:-

a) to process the input signals to determine delay and rotation parameters which implement at least one elementary paraunitary matrix and transform the input signals into output signals to obtain improvement in a measure of strong decorrelation;

b) to assess the improvement in the measure of strong decorrelation, and if it is significant to designate the output signals as input signals and iterate a) and b),

and if the improvement is not significant to designate the output signals as signals decorrelated in a wide sense.

21. (Currently amended) A computer programme according to Claim 20 ~~characterised in that~~ wherein the delay and rotation parameters which transform the input signals characterise a single elementary paraunitary matrix.

22. (Currently amended) A computer programme according to Claim 21 ~~characterised in that it is arranged to control computer equipment~~ having instructions for controlling computer apparatus to implement the step of producing a paraunitary matrix by cumulatively multiplying successive elementary paraunitary matrices produced by iterating processing of the input signals to determine delay and rotation parameters.

23. (Currently amended) A computer programme according to Claim 21 ~~characterised in that~~ wherein the range of signal delay parameters is a set of discrete delay vectors, and the computer programme ~~is arranged~~ having instructions for controlling computer apparatus to provide for the delay and rotation parameters to be determined by generating a respective version of the input signals delayed by each delay vector in the set, and for each version finding rotation parameters which at least approach producing maximisation of output signals' strong decorrelation.

24. (Currently amended) A computer programme according to Claim 23 ~~characterised in that in that it is arranged~~ having instructions for controlling computer apparatus to provide for the rotation parameters which at least approach producing maximisation of output signals' strong decorrelation to be determined using a pointwise decorrelation algorithm.

25. (Currently amended) A computer programme according to Claim 20 ~~arranged to control~~ having instructions for controlling computer ~~equipment~~ apparatus to receive n input signals where n is an integer greater than 2, ~~characterised in that it is arranged~~ and to provide for processing the input signals to determine delay and rotation parameters to comprise determining such parameters which implement at least one elementary

paraunitary matrix providing for rotation of a pair of input signals and relative delay of the or as the case may be each other input signal.

26. (Currently amended) A computer programme according to Claim 25 ~~arranged to control~~ having instructions for controlling computer ~~equipment~~ apparatus to define respective channels for the n input signals ~~characterised in that it is arranged to provide the processing of~~ and also having instructions for controlling computer apparatus to process the input signals to determine delay and rotation parameters to have $n(n-1)/2$ successive stages each associated with at least one respective elementary paraunitary matrix and each providing for rotation of signals associated with a respective pair of channels and provision of relative delay associated with the or as the case may be each other channel, the first stage being arranged to process the input signals and the or as the case may be each subsequent stage being arranged to receive signals processed in the respective preceding stage.

27. (Currently amended) A computer programme according to Claim 22 ~~arranged to control~~ having instructions for controlling computer ~~equipment~~ apparatus to receive a set of n input signals where n is an integer greater than 2, ~~characterised in that it also provides for such equipment~~ and further instructions for controlling the computer apparatus to:

a) produce $n(n-1)/2$ replicas of the set of input signals,

b) in each replica select a respective signal pair differing to that selected in other replicas, and

c) carry out processing of determine delay and rotation parameters for each replica as input signals by:

i) determining delay and rotation parameters which implement at least one elementary paraunitary matrix providing for rotation of the respective selected signal pair only, and

ii) determining which replica when transformed by the associated at least one elementary paraunitary matrix gives rise to transformed signals corresponding to improvement in a measure of strong decorrelation by at least a major part of a maximum extent obtainable over the replicas and

designating these transformed signals as output signals.

28. (Currently amended) A computer programme according to Claim 22 ~~characterised in that~~ wherein the at least one elementary paraunitary matrix implements at least one leading delay, rotation and terminal delay.